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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|------------------------|---------------------|------------------|
| 09/944,779      | 08/31/2001  | Walter J. Sherwood JR. | STAR-0003           | 2302             |

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EXAMINER

TRAN, HIEN THI

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1764

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                     |  |
|------------------------------|-----------------|---------------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s)        |  |
|                              | 09/944,779      | SHERWOOD, WALTER J. |  |
|                              | Examiner        | Art Unit            |  |
|                              | Hien Tran       | 1764                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 9-25 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 9-25, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 13-23 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

3. The claims have not been checked to the extent necessary to determine the presence of all possible errors due to inconsistency. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the claims.

4. Claim 29 is objected to because of the following informalities:

In claim 29, lines 9 and 12 apparently "first" should be changed to --particulate filter-- (note line 6).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 9-25, 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9, line 3 it is unclear as to where the phrase of "carrying a length" is disclosed in the specification. See claims 24, 27 likewise.

In claim 27, line 4 it is unclear as to how the filter components are related to the means for filtering particulates and means for filtering particulates and nitrogen oxide set forth in lines 5-6, if they are different elements, then where they are shown in the drawings and specification.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 9-10, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giarrizzo (3,675,398) in view of Ban et al (5,961,931).

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Giarrizzo discloses a filter system comprising an attachable unit for varying the length of the filter system; each unit including:

a particular filter unit, e.g. 24; and

a combination of particulate and other pollutant filter unit, e.g. 32.

The apparatus of Giarrizzo is substantially the same as that of the instant claims, but is silent as to whether the other pollutant may be nitrogen oxide, e.g. whether the combination of particulate and other pollutant filter unit may be a combination of particulate and nitrogen oxide filter unit.

However, Ban et al discloses that the pollutants from the exhaust gas include particulate, nitrogen oxide, etc.. Ban et al further discloses a combination of particulate and nitrogen oxide filter unit comprising a housing, a plurality of concentrically arranged filters within the housing, a plurality of first passages passing adjacent to at least one filter and opened to a first end of the housing, a plurality of second passages passing adjacent at least one filter and opened to a second end of the housing, whereby exhaust gases passes through a particulate filter as the exhaust gas moves from the first passages to the second passages (Figs. 5A-C; 7, 22A-B, col. 8, lines 24-29).

It would have been obvious to one having ordinary skill in the art to use the combination particulate and nitrogen oxide filter unit as taught by Ban et al in the apparatus of Giarrizzo so as to further purify other noxious component in the exhaust gas and thereby to extend the utility of the filter thereof.

10. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giarrizzo (3,675,398) in view of in view of Ban et al (5,961,931) as applied to claims 9-10; 27 and further in view of Chiang et al (6,056,796).

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The modified apparatus of Giarrizzo is substantially the same as that of the instant claims, but fails to disclose the specific material for the filter as claimed.

However, Chiang et al discloses that the particulate filter may be made by woven technique, and is coated with a component, such as silicon carbide, alumina, etc. (col. 2, line 9; col. 4, lines 66-67; col. 5, lines 1-34; col. 8, lines 30-45).

It would have been an obvious matter of design choice to one having ordinary skill in the art to select an appropriate material for the filters, such as the one taught by Chiang et al in the modified apparatus of Giarrizzo, on the basis of its suitability for the intended use as a matter of obvious design choice and since these materials are conventional in the art and no cause for patentability here.

11. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giarrizzo (3,675,398) in view of Chiang et al (6,056,796) or Rao et al (4,544,388).

Chiang et al discloses provision of a regeneration means for the filter, such as high pressure gas. Rao discloses provision of regeneration means for the filter, such as heater.

It would have been obvious to one having ordinary skill in the art to select an appropriate means for regenerating the filter as taught by Chiang et al or Rao et al in the apparatus of Giarrizzo, to reuse the filter as use of such is conventional in the art and no cause for patentability here.

***Allowable Subject Matter***

12. Claims 13-23, 25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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13. Claim 24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

14. Claims 29-30 are allowed.

***Response to Arguments***

15. Applicant's arguments with respect to claims 9-25, 27-30 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Hien Tran*

HT

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**